Observations of the Transit of Mercury at Mauritius, 1907 November 14. By T. F. Claxton.

On the afternoon of the transit the weather was cloudy, but the Sun emerged from behind clouds about one minute before the internal contact at ingress, which occurred at $13^d\ 22^h\ 25^m\ 19^s$ G.M.T., whereas the computed time from N.A. data was $13^d\ 22^h\ 25^m\ 47^s$ G.M.T. The telescope used was a 6-inch equatorial by Cooke, with a diagonal eyepiece, power 80.

The Sun's limb was boiling considerably; the definition of the limb was bad, but of the spots at the centre and near the limb good.

Mercury appeared as a clear-cut black disc, perfectly circular, with no white spot or fringe.

No flashing across of cusps was detected.

Almost immediately after internal contact at ingress the Sun became obscured, and was not visible again until about 15 minutes before internal contact at egress. A careful watch was then made for any distortion, white spot, or disc, but none could be detected in the equatorial.

On examining the planet in the 2-inch telescope of the theodolite, however, with an eyepiece of power 40, undoubted distortion was noticed; but on rotating the graduated coloured glass it was found that the distortion rotated with it, indicating that it was an effect of the glass. No white spot or disc was noticed.

Mr. W. P. Ebbels, who continued watching the planet with the equatorial while I was observing with the theodolite, detected no distortion, white spot, or fringe.

The observed times of egress were as follows:—

	W. P. Ebbels with equatorial.	T. F. Claxton with theodolite.	Computed from N.A. data.
	d h m s	d h m s	d h m s
Internal contact .	14 1 46 24 G.M.T.	14 1 46 31 G.M.T.	14 1 46 40 G.M.T.
Bisected by Sun's limb	47 37 ,,	47 39 ,,	
External contact .	48 36 ,,	48 34 ,,	14 1 49 21 ,,

Mr. A. Walter took 11 photographs of the Sun with the photo-heliograph near the times of ingress and egress, copies of five of which are presented to the Society.

The Perturbations of Halley's Comet in the Past. Third Paper. The Period from 1066 *to* 1301. By P. H. Cowell and A. C. D. Crommelin.

We have again to acknowledge the continued kind assistance of Dr. Smart and Messrs. F. R. Cripps and Thos. Wright, who have done a large portion of the mechanical quadratures for this period.

We commence by indicating some small corrections to the values of n at various returns which we gave in the first paper; these arise chiefly from the introduction of the definite integral for Venus and the Earth from the table on p. 386. The corrected values are, 1531 46″·339, 1456 46″·021, 1378 45″·622, 1301 44″·862.

We next give the full table of perturbations for the revolution 1222 to 1301. It will be seen that the effect of the change of n and the action of the smaller planets has an appreciable influence on our former result.

Revolution 1222 *to* 1301.

Planet.	Limits of u.	$\int dn$.	$\int d\varpi$.	$\int d\zeta$.
	° °	″	″	″
Venus	0– 30	+·0069	...	+ 198
,,	30–330	−·0013	...	− 50
,,	330–360	−·0070	...	0
Earth	0– 30	+·0045	...	+ 128
,,	30–330	−·0049	...	+ 31
,,	330–360	+·0089	...	0
Jupiter	0– 90	−·2444	− 186	− 7040
,,	90–270	−·0175	− 167	+ 7894
,,	270–360	+·5694	− 186	− 343
Saturn	0– 90	−·0590	+ 24	− 1555
,,	90–270	+·0569	− 37	+ 1437
,,	270–360	−·2366	+ 16	+ 35
Uranus	0–360	−·0147	− 1	− 34
Neptune	0–360	+·0010	− 6	+ 219
	Sums	+·0622	− 543	+ 920

Hence n at $1222 = 44''\cdot862 - ''\cdot062 = 44''\cdot800$.

$$\text{Theoretical period in days} = \frac{1296000 - 920}{44\cdot800} = 28908^{d}\cdot0.$$

Calculated date of perihelion passage 1222 August 30·7 = Julian day 2167635·7. This is 17 days later than our former provisional calculated value, and 9 days later than the day we adopted for the perihelion passage. As the computations for the revolution 1145 – 1222 indicated a still later date for the perihelion passage in 1222, we have reconsidered our interpretation of the observa-